<u>Vita</u>

Anthony P. DeCaprio, Ph.D., DABT, F-ABFT

Office Address: Department of Chemistry & Biochemistry

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Florida International University 11200 S.W. 8th St., OE116B

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EDUCATION & TRAINING:

Rensselaer Polytechnic Institute, Troy, NY Biology B.S. (1975) Albany Medical College, Albany, NY Toxicology Ph.D. (1981) Albany Medical College, Albany, NY Toxicology postdoctoral

PROFESSIONAL INTERESTS:

- Methods for comprehensive analysis of drugs, chemical pollutants, and their metabolites in analytical and forensic toxicology.
- Toxicology and pharmacology of drugs, pesticides, and occupational chemicals.
- Toxicology of PCBs, dioxins, and other persistent pollutants.

PROFESSIONAL EXPERIENCE:

2009 - present **Associate Professor** Department of Chemistry & Biochemistry,

(tenured) Florida International University, Miami, FL.

Director Forensic & Analytical Toxicology Facility.

Forensic Science Certificate Program.

International Forensic Research Institute, Florida International University, Miami, FL. Anthony P. DeCaprio, Ph.D., DABT

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1998 - present **President/Principal**

ToxRisk Associates Pembroke Pines, FL

 Expert consulting services in toxicology/pharmacology and occupational/environmental health to law firms, corporations, and trade groups.

2005 - 2008 **Professor** Environmental Health Sciences,

School of Public Health & Health

Sciences, University of Massachusetts Amherst.

■ Research and teaching in toxicology and environmental health science.

1997 - 2004 **Visiting Associate Professor** School of Public Health, University

at Albany, SUNY.

Director Exposure Assessment Laboratory,

University at Albany, SUNY.

Research and teaching in toxicology and environmental health science. Established and directed the UAlbany Exposure Assessment Laboratory, a NYSDOH/CLEP-accredited analytical toxicology laboratory for biomonitoring of environmental contaminants in human specimens.

1995 - 1997 **Supervising Health Scientist** ChemRisk® Division, McLaren/Hart Inc., Albany, NY.

■ Senior consultant and Practice Area Leader for the ChemRisk regional office in upstate New York. Directed toxicology, risk assessment, and occupational health consulting services for private sector clients.

and Molecular Epidemiology, Wadsworth Center for Laboratories and Research, NYSDOH.

- Toxicologist and team member on major environmental health projects, including the Love Canal chemical waste site and the Binghamton State Office Building transformer fire investigations. Key role in the development of toxicity equivalence factors (TEFs) methodology for dioxin risk assessment.
- Directed state- and federally-funded basic and applied research projects, including studies on protein binding of reactive chemical neurotoxicants, protein adducts as xenobiotic exposure biomarkers, and molecular mechanism of action of dioxins and PCBs.

OTHER ACADEMIC APPOINTMENTS:

2000 - present Faculty

Institute for Health and the Environment, UAlbany, SUNY.

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1986 - 1995	Assistant/Associate Professor (part-time appointment)	Department of Environmental Health and Toxicology, School of Public Health, UAlbany, SUNY.
1985 - 1995	Adjunct Assistant Professor	Department of Pharmacology and Toxicology, Albany Medical College.

PROFESSIONAL ACTIVITIES:

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Society Memberships (full memberships):

American Academy of Forensic Sciences
American Chemical Society
International Society of Exposure Science
Society of Forensic Toxicologists
Society of Toxicology
The International Association of Forensic Toxicologists

Advisory Panels:

2012	Invited reviewer, NCI special study section ZCA1 SRLB-Q (O1) reviewing applications under the Innovative Technology Development for Cancer Research program, June.
2011	Invited reviewer, NCI special study section ZCA1 SRLB-Q (J1) reviewing applications under the Small Grants Program for Cancer Epidemiology, November.
2011	Invited reviewer, NCI special study section ZCA1 SRLB-U (M1-R) reviewing applications under the Innovative Technology Development for Cancer Research program, March.
2005 - 2006	Ad hoc reviewer, Safety and Occupational Health Study Section, National Institute for Occupational Safety and Health, October '05 and February '05, '06 meetings.
2005	National Institute of Environmental Health Sciences (NIEHS), Special Emphasis Panel - National Center for Toxicogenomics Proteomics Biomarkers, July.
2001	Ad hoc member, Special Emphasis Panel, NIH National Center for Complementary and Alternative Medicine.
1995 - 1996	Member, Connecticut Academy of Science and Engineering Task Force on Biotechnology.
1994	Invited Panel Member, Science Panel Meeting on Chlorinated Dibenzo-p-Dioxins, US Agency for Toxic Substances and Disease

Registry (ATSDR), Atlanta, GA, August.

Session Chair:

March 2001 Chair, Halogenated Hydrocarbons, Annual Meeting Society of

Toxicology, San Francisco, CA.

Editorial Activities:

Editorial Board, Journal of Toxicology

Editorial Board, Journal of Forensic Research and Crime Studies

External peer reviewer, ATSDR Toxicological Profiles.

Ad hoc reviewer, ATSDR-sponsored research project applications, interim reports, and manuscripts for publication.

Ad hoc reviewer, USEPA cooperative agreement proposals.

External peer reviewer USEPA Provisional Toxicity Assessment Issue Papers.

Ad hoc referee for the following scientific journals:

Agricultural and Food Chemistry

Analytical and Bioanalytical Chemistry

Archives of Toxicology

Bioanalysis

Brain Research

Bulletin of Environmental Contamination and Toxicology

Chemical Research in Toxicology

Clinical Chemistry

Critical Reviews in Toxicology

Dose-Response

Drug Testing and Analysis

Electrophoresis

Environmental Health

Environmental Health Perspectives

Environmental Research

European Biophysics Journal

Forensic Chemistry

Fundamental and Applied Toxicology

Journal of Chromatography A

Journal of Chromatography B

Journal of Environmental Health

Journal of Neurochemistry

Journal of Pharmacology and Experimental Therapeutics

Journal of the Neurological Sciences

Journal of Toxicology and Environmental Health

NeuroToxicology

Pharmacological Research
Psychopharmacology
Science of the Total Environment
Toxicological Sciences
Toxicology and Applied Pharmacology
Toxicology Letters

PROFESSIONAL CERTIFICATIONS:

- Diplomate of the American Board of Toxicology (1986; recertified 1991, 1996, 2001, 2006, 2011, 2016).
- Certificate of Qualification (DECAA1) as Clinical Laboratory Director; NYSDOH Clinical Laboratory Evaluation Program (2002 2014).

Fellow of the American Board of Forensic Toxicology (F-ABFT) (2018 - present).

ACADEMIC HONORS:

- Dean's Certificate and the Frank C. Ferguson Prize for Excellence in Academic Studies, Albany Medical College.
- 1980 1981 Society of Toxicology Doctoral Research Fellowship Sponsored by The Procter and Gamble Company.
- 2007 Nomination; Outstanding Teacher Award; School of Public Health and Health Sciences, UMass Amherst.

RESEARCH FUNDING:

Completed:

- 1984 1987 NIOSH R01 OH01972; **Molecular Mechanisms of Diketone Neurotoxicity**; (PI; \$133,853).
- 1990 1991 Aaron Diamond Foundation; **Capital District Center for Drug Abuse Research and Treatment**; (Co-investigator, 5%; ~\$500,000; PI: S. Glick, Albany Medical College).
- 1990 1995 NIEHS R01 ES05172; Environmental Neurotoxicants and the Axonal Cytoskeleton; (PI; \$266,555).
- 1993 1994 NIH NCRR-BRS Shared Instrument Grant; Mass Spectrometer for Structure-Function Research; (Co-investigator, 10%; ~\$500,000; PI: C. Manella, Wadsworth Center, NYSDOH).
- 1998 2001 NIEHS P42 ES04913; Multidisciplinary Study of PCBs at

- **Akwesasne**; (PI: Laboratory Services Core; \$377,500/yr; Program PI: D. Carpenter, University at Albany).
- 1999 2000 University at Albany Faculty Research Award; **DNA Adducts by** ³²**P- Postlabeling as PCB Exposure Biomarkers**; (PI; \$2,800).
- 1999 2003 NIEHS R01 ES09795; **Disruption of Estrogenic Responses by PCB-PAH Mixtures**; (Co-investigator; 10%; \$489,968; PI: K. Arcaro, UMass Amherst).
- 2000 2005 NIEHS R01 ES10904; **Mohawk Culture, Behavior, Toxicant Exposure and Health**; (Co-investigator, 15%; \$2,622,151; PI: L. Schell, University at Albany).
- 2001 2004 CDC/ATSDR H75/ATH270079-01; PCB Congener and Metabolite Patterns in Adult Mohawks: Biomarkers of Exposure and Individual Toxicokinetics; (PI; \$225,000).
- 2003 CDC/ATSDR; University-Community Consortium for Anniston Environmental Health Research; (Co-investigator, 5%; direct costs \$1,265,820; Pls: J. Cash, M. Lavender, H. Frumkin, Emory University).
- 2003 2006 USEPA R831043; Environmental Contaminants in Foodstuffs of Siberian Yu'piks from St. Lawrence Island, Alaska; (Coinvestigator, 10%; \$469,800; PI: D. Carpenter, University at Albany).
- 2004 2008 CDC/ATSDR R01 TS000004; **PCB Congener/Metabolite Patterns in Akwesasne Mohawks**; (PI; \$641,200).
- 2005 2006 NIEHS R56 ES007912; **Molecular Mechanisms of Hexacarbon-Induced Axon Atrophy**; (Co-investigator, 15%; subcontract \$37,000; PI: R. LoPachin, Albert Einstein College of Medicine).
- 2006 2011 NIEHS R01 ES007912; **Molecular Mechanisms of Hexacarbon-Induced Axon Atrophy**; (Co-PI; 15%; subcontract \$115,500/yr; PI: R. LoPachin, Albert Einstein College of Medicine).
- 2007 2008 NIEHS R56 ES010026; **PCB Disruption of Thyroid Hormone Action during Development**; (Co-investigator, 5%; \$386,678; PI: T. Zoeller, UMass Amherst).
- 2007 2008 NIEHS R01 ES014675; **Gender Effects on PCB-Induced Dopamine Neurotoxicity**; (Co-investigator; 5%; subcontract \$31,000; PI: R. Seegal, Wadsworth Center, NYSDOH).
- 2012 2013 NIJ 2011-DN-BX-K559; Comprehensive Forensic Toxicological Analysis of Designer Drugs; (PI; \$143,225).
- 2011 2015 NCI R21 CA140036; Platform for High-Throughput Analysis of Protein Adducts for Carcinogen Exposure; (PI; \$649,819).

- 2015 2017 NIDA U01 DA041156; **FIU-ABCD: Pathways and Mechanisms to Addiction in The Latino Youth of South Florida**; (Co-investigator; 5%; \$1,063,094 (Year 1); PI: R. Gonzalez).
- 2015 2018 NIJ 2014-R2-CX-K006; Forensic Toxicological Screening/Confirmation of 500+ Designer Drugs by LCQTOF-MS and LC-QqQ-MS Analysis; (PI; \$396,970).
- 2016 2018 NIJ 2015-NE-BX-K001; **Novel Blood Protein Modification Assay for Retrospective Detection of Drug Exposure**; (PI; \$195,710).
- 2017 2019: NIJ 2017-IJ-CX-0004; **Development of Improved Extraction/Purification Methods for LC-QqQMS Analysis of Novel Psychoactive Substances**; (Co-PI; NIJ Graduate Fellowship to Ashley Kimble; \$100,000).

Active:

- 2018 2020 NIJ 2017-MU-BX-0002; Novel Blood Protein Modification Assay for Retrospective Detection of Drug Exposure Development and Validation; (PI; \$467,885).
- 2017 2020 NSF 1739805; Phase I IUCRC Florida International University:

 Center for Advanced Research in Forensic Science (CARFS) –

 Project 018: Systematic Comparison of Analytical Parameters in
 Forensic Hair Analysis; (PI; \$55,500).
- 2017 2020: NIJ 2017-IJ-CX-0005; **Optimization of Pretreatment Parameters in**Hair Analysis for Drugs of Abuse and Understanding Protein-Drug
 Physicochemical Interactions; (Co-PI; NIJ Graduate Fellowship to
 Jennett Chenevert; \$100,000).
- 2019 2020 NIJ 2018-75-CX-0037; Evaluating Analytical Parameters and Understanding Drug-Matrix Interactions in Forensic Hair Analysis; (PI; \$400,349).
- 2019 2021 NIEHS R03 ES031188-01; **Development of a DNA Adductome Database** (Co-PI for FIU subcontract; PI: J. Guo, Univ. of Minnesota; \$164,907).

TEACHING EXPERIENCE:

Florida International University:

CHS 4430 (Introduction to Chemical Toxicology); Course Director and instructor; Fall semester 2011 - 2019.

CHS 5435 (Pharmacology and Toxicology of Drugs); Course Director and

instructor; Fall semester 2011 - 2019.

CHM 4930 (Senior Seminar in Chemistry); Course Director and instructor; Fall 2011, Spring 2012, Fall 2012, Spring 2014, Fall 2015, Fall 2016.

CHS 5990 (Principles of Toxicology); Course Director and instructor; Fall 2010.

CHS 5539 (Forensic Toxicology); Course Director and instructor; Spring semester 2010, 2012, 2014, 2016, 2018, 2020.

CHM 4130L (Instrumental Analysis Laboratory); Course Director and instructor; Spring 2010, Spring 2011.

CHS 5538C (Chemistry and Analysis of Drugs); Course Director and instructor; Spring semester 2009, 2011, 2013, 2015, 2017, 2019.

CHM 4130 (Instrumental Analysis); Course Director and instructor; Fall 2009.

CHM 5150 (Graduate Analytical Methods); Course Director and instructor; Fall 2009.

UMass Amherst:

PUBHLTH 565 (Environmental Health Practices; core course for MPH students); Course Director and instructor; Spring and Fall 2005, Fall 2006, Spring and Fall 2007, Fall 2008.

PUBHLTH 565 (Environmental Health Practices; on-line course for Public Health Practice program); Course Director and instructor; Spring 2006, Fall 2007, and Spring 2008.

PUBHLTH 567 (Environmental Compliance & Regulations); Course Director and instructor; Spring 2007.

PUBHLTH 690X (Exposure Assessment in Environmental and Public Health); Course Director and instructor; Spring 2006, Spring 2008.

University at Albany:

EHT 515 (Environmental Physiology); Lecturer, 1999 - 2000.

EHT 530 (Principles of Toxicology); Lecturer, 1986 - 2000.

EHT 590 (Introduction to Environmental Health; core course for MPH students); Course Director, 1998; Instructor, 1997, 1999 - 2004.

EHT 790 (EHT Seminars); Course Director, 1993.

EHT 830 (Topics in Neurotoxicology); Lecturer, 1992.

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SPH 201 (Introduction to Public Health; undergrad course); Lecturer, 1998 - 2001.

Environmental Health and Toxicology Laboratory Rotations (1986-1995, 1997-2001).

Albany Medical College:

Pharm 200 (Medical Pharmacology): Instructor, 1990 -1994. Pharmacology for Nurse Anesthesiology: Instructor, 1993 -1994.

STUDENT ADVISEMENT:

Current (FIU):

Thesis/dissertation committee chair and mentor:

Jennett Chenevert Ph.D. Chemistry with Forensic Science emphasis, Fall

2015-present.

Ludmyla Tavares Ph.D. Chemistry with Forensic Science emphasis, Fall

2017-present.

William Morrison Ph.D. Chemistry with Forensic Science emphasis, Fall

2017-present.

Brianna Hill Ph.D. Chemistry with Forensic Science emphasis, Fall

2018-present.

Rebecca Smith Ph.D. Chemistry with Forensic Science emphasis, Fall

2018-present.

Meena Swaminathan Ph.D. Chemistry with Forensic Science emphasis, Fall

2018-present.

Leonardo Maya Ph.D. Chemistry with Forensic Science emphasis, Fall

2019-present.

Thesis committee membership:

30 current and former Ph.D. students, 8 current and former M.S. and M.S.F.S. students, FIU Departments of Chemistry & Biochemistry and Biology.

Former/Completed (FIU, UMass Amherst, UAlbany):

Ashley N. Kimble; Ph.D. Chemistry with Forensic Science emphasis, Florida International University, awarded Summer, 2019. Current employer: U.S. Army Corps of Engineers.

Carmen T. Mulet; M.S. Forensic Sciences, Florida International University, awarded Summer, 2019.

Melanie Eckberg; Ph.D. Chemistry with Forensic Science emphasis, Florida International University, awarded Fall, 2018. Current employer: Commonwealth of Virginia Toxicology Laboratory.

R. Allen Gilliland; Ph.D. Chemistry with Forensic Science emphasis, Florida International University, awarded Fall, 2018. Current employer: Forensic Toxicology Laboratory, Dept. of Health, State of New Mexico.

Stephanie Delabat; M.S. Forensic Sciences, Florida International University, awarded Fall, 2018.

Joshua Z. Seither; Ph.D. Chemistry with Forensic Science emphasis, Florida International University, awarded Spring, 2018. Current employer: Forensic Toxicology Laboratory, Department of Pathology and Laboratory Medicine, University of Miami.

Kimmy Poon; M.S. Forensic Sciences, Florida International University, awarded Summer, 2016. Current employer: USEPA.

Kevin J. Schneider; Ph.D. Chemistry with Forensic Science emphasis, Florida International University, awarded Spring, 2013. Current employment: Toxicologist, Commonwealth of Virginia Toxicology Laboratory.

Madeleine J. Swortwood; Ph.D. Chemistry with Forensic Science emphasis, Florida International University, awarded Fall, 2013. Current employment: Assistant Professor, Dept. of Forensic Science, Sam Houston State University, Houston, TX.

Vanessa R. Thompson; Ph.D. Chemistry with Forensic Science emphasis, Florida International University, awarded Spring, 2014. Current employment: Director of Research and Development, AML Diagnostics, Boca Raton, FL.

Mingshe Zhu; Ph.D. Environmental Health and Toxicology, University at Albany; awarded Spring, 1995. Current employment: Bristol Myers Squibb Pharmaceuticals.

Supported graduate students in the University at Albany, Dept. of Chemistry (1991-1992).

Faculty advisor for Dr. Vladja Sukdolova, Visiting Fellow, University at Albany, Fogarty International Center (1998-1999).

Ph.D. thesis committee member for Mr. John Ssempebwa, Department of Environmental Health Sciences, University at Albany (2000-2003; Ph.D. in Environmental Health and Toxicology, 2003).

Ph.D. thesis committee member for Ms. Mary Grose-Eckler, Department of Environmental Health Sciences, University at Albany (2006-2008).

M.S. thesis committee Chair for Ms. Omobola Mudasiru, UMass Amherst Environmental Health Sciences Division (2006-2008).

M.S. thesis committee member for Mr. Jianyong Wu (2006-2007) and Ms. Debalina Das (2006-2008), UMass Environmental Health Sciences Division. Faculty advisor for five UMass M.S. and M.P.H. students (2005-2009).

DEPARTMENTAL AND UNIVERSITY SERVICE:

1979 - 1980	Treasurer, Albany Medical College Graduate Student Organization.
1980 - 1981	Vice-President, Albany Medical College Graduate Student Organization.
1987 - 1994	Admissions Committee; Department of Environmental Health and Toxicology; UAlbany School of Public Health.
1988 - 1993	Radiation Safety Committee; Wadsworth Laboratories, NYSDOH.
1990 - 1995	Information Resources Advisory Committee; Wadsworth Laboratories, NYSDOH.
1990 - 1993	Peer Review Board; Wadsworth Laboratories, NYSDOH.
1993 - 1994	Molecular Epidemiology Personnel Search Committee, Wadsworth Laboratories, NYSDOH.
1994 - 1995	Chair, Academic Committee; Dept. of Environmental Health and Toxicology, UAlbany School of Public Health.
1994 - 1995	Personnel Committee, School of Public Health Council, UAlbany School of Public Health.
1994 - 1995	Environmental and Occupational Health Track Evaluation Committee, Department of Environmental Health and Toxicology, UAlbany School of Public Health.
1998 - 2002	Institutional Animal Care and Use Committee, University at Albany, State University of New York.
1999 - 2002	Institutional Animal Care and Use Committee, Wadsworth Laboratories, NYSDOH (UAlbany representative).
2005 - 2009	Curriculum Committee, School of Public Health and Health Sciences, UMass Amherst.
2005 - 2008	Strategic Planning Committee, School of Public Health and Health Sciences, UMass Amherst.

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	2005 - 2006	Personnel Committee, Department of Public Health, School of Public Health and Health Sciences, UMass Amherst.	
	2005 - 2007	Faculty Search Committee, Environmental Health Sciences Program/Division, Department of Public Health (served on four search committees; as Chair on two).	
	2006 - 2008	Judge, Annual Research Day Poster Competition, School of Publication and Health Sciences.	lic
	2007 - 2008	Committee on Research, School of Public Health and Health Sciences, UMass Amherst.	
	2007 - 2009	Personnel Committee, Division of Environmental Health Sciences Department of Public Health, School of Public Health and Health Sciences, UMass Amherst.	5,
	2007 - 2009	Curriculum Committee, Division of Environmental Health Science Department of Public Health, School of Public Health and Health Sciences, UMass Amherst.	es,
	2009 - 2010	Human Resources Committee, Department of Chemistry and Biochemistry, Florida International University.	
	2010 - 2011	Faculty Search Committee (Bioanalytical Chemist position), Department of Chemistry & Biochemistry, Florida International University.	
	2009 - present	Graduate Forensic Admissions Committee, Department of Chemistry and Biochemistry, Florida International University.	
	2011 - 2014	Safety Committee, Department of Chemistry & Biochemistry, Flor International University.	rida
	2009 - present	Instrumentation and Facilities Committee, Department of Chemis and Biochemistry, Florida International University (Chair; 2015-2017).	try
	2010 - present	Controlled Substances Committee, Florida International Universit	y.
	2015 - present	Graduate Committee, Department of Chemistry & Biochemistry, Florida International University.	

CONTINUING PROFESSIONAL EDUCATION:

1985	Inhalation Toxicology, Society of Toxicology Continuing Education.
1993	Advanced Behavioral and Neurophysiological Testing for Neurotoxicity,
	Society of Toxicology Continuing Education.
1993	Applications of Advanced Technologies to Problems in Toxicology,

	Contains of Taniantons Continuing Education
	Society of Toxicology Continuing Education.
1995	Advances in Risk Extrapolation: Dose-Response Assessment, Society of
	Toxicology Continuing Education.
1995	Basic Applications in Risk Assessment, Society of Toxicology Continuing
	Education Continuing Education.
2000	Toxicogenomics in the Trenches, Society of Toxicology Continuing
	Education.
2002	Current Approaches for Validation and Regulatory Acceptance of Novel
	Test Methods, Society of Toxicology Continuing Education.
2011	Forensic Toxicologist Expert Witness Testimony: What to Expect and How
2011	
	to Prepare, SOFT/TIAFT Annual Meeting Workshop.
2019	QTOF Techniques, SOFT Annual Meeting Workshop.

PUBLICATIONS:

Book Edited:

<u>Toxicologic Biomarkers</u>. (2006). (**A.P. DeCaprio, Ed.**), Taylor & Francis, New York.

Book Chapters:

DeCaprio, **A.P.** (2006). Introduction to toxicologic biomarkers. In: *Toxicologic Biomarkers*. (A.P. DeCaprio, Ed.), Taylor & Francis, New York; pp. 1-15.

Gallo, M.V., Ravenscroft, J., Denham, M., Schell, L.M., **DeCaprio, A.P.**, and the Akwesasne Task Force on the Environment. (2002). Environmental contaminants and growth of Mohawk adolescents at Akwesasne. In: *Human Growth from Conception to Maturity* (G. Gilli, L. M. Schell, and L. Benso, Eds.), Smith-Gordon, London; pp. 279-287.

Schell, L.M., **DeCaprio, A.P.**, Gallo, M.V., Hubicki, L., and the Akwesasne Task Force on the Environment. (2002). Polychlorinated biphenyls and thyroid function in adolescents of the Mohawk Nation at Akwesasne. In: *Human Growth from Conception to Maturity* (G. Gilli, L. M. Schell, and L. Benso, Eds.), Smith-Gordon, London; pp. 289-296.

DeCaprio, A.P. (2000). n-Hexane, metabolites, and derivatives. In: *Experimental and Clinical Neurotoxicology, 2nd Edition*. (P.S. Spencer, H.H. Schaumburg, and A.C. Ludolph, eds.); Oxford University Press, New York; pp. 633-648.

DeCaprio, A.P. (1999). Biomarkers of exposure and susceptibility. In: *General and Applied Toxicology, 2nd Edition*. (B. Ballantyne, T.C. Marrs, and T. Syversen, eds.); MacMillan Reference Ltd., London; pp. 1875-1898.

DeCaprio, A.P. (1987). Hexane neuropathy: Studies in experimental animals and man. In: *Selectivity and Molecular Mechanisms of Toxicity*. (F. DeMatteis

and E.A. Lock, eds.), MacMillan Press, London, U.K.; pp. 249-263.

Book Review:

DeCaprio, A.P. (2019). Review of: Forensic Toxicology. J. Forensic Sci. 64, 661.

Peer-Reviewed Articles:

- Seither, J.Z. and **DeCaprio**, **A.P.** (2020). Differentiation of novel psychoactive substance regioisomers by collision induced dissociation relative abundances, *in preparation*.
- Möller, C., Gilliland, R.A., Arroyo-Mora, L.E., and **DeCaprio, A.P.** (2020). In vitro peptide-based assay for the detection of thiol adducts of drug of abuse. *Bioanalysis, in preparation.*
- Guo, J., Turesky, R.J., Tarifa, A., **DeCaprio, A.P.**, Cooke, M.S., Walmsley, S.J., and Villalta, P.W. (2020). Development of a DNA adductome mass spectral database. *Chem. Res. Toxicolo.*, *submitted*.
- Aijala, J.C., Wu, W., and **DeCaprio, A.P.** (2020). Application of statistical design of experiments to assess pretreatment parameters in forensic toxicological hair analysis for amphetamine. *J. Chemometrics, submitted.*
- Mulet, C.T., Tarifa, A., and **DeCaprio**, **A.P.** (2019). Comprehensive analysis of synthetic cannabinoids and metabolites in oral fluid by online solid phase extraction and liquid chromatography/triple quadrupole/mass spectrometry. *Anal. Bioanal. Chem.*, *submitted*.
- Cui, D., **DeCaprio**, **A.**, Tarifa, A., and O'Shea, K. (2019). Detailed study of the ultrasound-induced remediation of the second-generation antihistamine, cetirizine. *J. Environ. Chem. Engineer.*, in press.
- Kimble, A.N. and **DeCaprio, A.P.** (2019). Systematic analysis of novel psychoactive substances. II. Development of a screening/confirmatory LC-QqQ-MS/MS method for 800+ compounds and metabolites in urine. *Forensic Chem.*, **16**, 100189.
- Möller, C., Davis, W., Clark, E., **DeCaprio, A.,** and Marí, F. (2019). Conodipine-P1-3, the first phospholipase A2 characterized from injected cone snail-venom. *Mol. Cell. Proteomics*, **18**, 876-891.
- Eckberg, M.N., Arroyo-Mora, L.E., Stoll, D.R., and **DeCaprio, A.P.** (2018). Separation and identification of isomeric and structurally related synthetic cannabinoids using two-dimensional liquid chromatography and high resolution mass spectrometry. *J. Anal. Toxicol.*, **43**, 170-178.
- Gilliland, R.A., Möller, C., and **DeCaprio, A.P.** (2018). LC-MS/MS based

- detection and characterization of covalent glutathione modifications formed by reactive drug of abuse metabolites, *Xenobiotica*, **49**, 778-790.
- Mulet, C.T., Arroyo-Mora, L.E., Leon, L.A., Gnagy, E., and **DeCaprio, A.P.** (2018). Rapid quantitative analysis of methylphenidate and ritalinic acid in oral fluid by liquid chromatography triple quadrupole mass spectrometry (LC-QqQ-MS), *J. Chromatogr. B*, **1092**, 313-319.
- Seither, J.Z., Arroyo-Mora, L.E., Hindle, R. and **DeCaprio, A.P.** (2018). Systematic toxicological analysis of novel psychoactive substances. I. Development of a compound database and HRMS spectral library, *Forensic Chem.*, **9**, 12-20.
- Möller, C., Clark, E., Safavi-Hemani, H., **DeCaprio, A.,** and Marí, F. (2017). Isolation and characterization of Conohyal-P1, a hyaluronidase from the injected venom of *Conus purpurascens*, *J. Proteomics*, **164**, 73-84.
- Möller, C., Davis, W.C., Marí, F., Thompson, V.R., and **DeCaprio, A.P.** (2017). Proteomic analysis of thiol modifications and assessment of structural changes in hemoglobin induced by aniline metabolites N-phenylhydroxylamine and nitrosobenzene. *Sci. Rep.*, **4**, 14794.
- Gallo, M.V., Deane, G.D., **DeCaprio, A.P.**, Schell, L.M., and Akwesasne Task Force on the Environment (2015). Changes in persistent organic pollutant levels from adolescence to young adulthood. *Environ. Res.*, **140**, 214-224.
- Zhao, C., Arroyo-Mora, L.E., **DeCaprio, A.P.**, Sharma, V.K., Dionysiou, D.D., and O'Shea, K.E. (2014). Reductive and oxidative degradation of iopamidol, iodinated X-ray contrast media, by Fe(III)-oxalate under UV and visible light treatment. *Water Res.*, **67**, 144-153.
- Schell, L.M., Gallo, M.V., Nelder, K.R., **DeCaprio, A.P.**, Jacobs, A., and Akwesasne Task Force on the Environment. (2014). Relationship between testosterone levels in adolescent males and polychlorinated biphenyls, dichlorodiphenyldichloroethylene, hexachlorobenzene, and lead. *Environ. Health Perspect.*, **122**, 304-309.
- Schneider, K.J. and **DeCaprio, A.P.** (2013). Covalent thiol adducts arising from reactive intermediates of cocaine biotransformation. *Chem. Res. Toxicol.*, **26**, 1755-1764.
- Swortwood, M.J., Hearn, W.L., and **DeCaprio, A.P.** (2013). Cross-reactivity of designer drugs including cathinone derivatives in commercial enzyme-linked immunosorbent assays. *Drug Testing Anal.*, **6**, 716-727.
- Schneider, K.J. and **DeCaprio**, **A.P.** (2013). Evaluation of *in vitro* metabolic systems for common drugs of abuse. 1. Cocaine. *Xenobiotica*, **43**, 1043-1054.
- Thompson, V.R. and **DeCaprio**, **A.P.** (2013). Covalent adduction of nitrogen mustards to model protein nucleophiles. *Chem. Res. Toxicol.*, **26**, 1263-1271.

Swortwood, M.J., Boland, D.M., and **DeCaprio, A.P.** (2013). Determination of 32 cathinone derivatives and other designer drugs in serum by comprehensive LC-QQQ-MS/MS analysis. *Anal. Bioanal. Chem.*, **405**, 1383-1397.

LoPachin, R. M., Gavin, T., **DeCaprio, A.**, and Barber, D. S. (2012). Application of the hard and soft, acids and bases (HSAB) theory to toxicant-target interactions. *Chem. Res. Toxicol.* **25**, 239-251.

Gallo, M.V., Schell, L.M., **DeCaprio, A.P.**, and Jacobs, A. (2011). Levels of persistent organic pollutant and their predictors among young adults. *Chemosphere*, **83**, 1374-1382.

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DeCaprio, A.P., Strominger, N.L., and Weber, P. (1983). Neurotoxicity and protein binding of 2,5-hexanedione in the hen. *Toxicol. Appl. Pharmacol.* **68**, 297-307.

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DeCaprio, A.P., Olajos, E.J., and Weber, P. (1982). Covalent binding of a neurotoxic n-hexane metabolite: Conversion of primary amines to substituted pyrrole adducts by 2,5-hexanedione. *Toxicol. Appl. Pharmacol.* **65**, 440-450.

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Invited Symposia and Seminars:

DeCaprio, A.P. (2019). New psychoactive substances – How does pharmacology impact enforcement (or does it)? *Invited on-line presentation to the Pistoia Alliance Controlled Substance Compliance Expert Community*, September 11.

Kimble, A.N. and **DeCaprio**, **A.P.** (2019). Comprehensive screening/confirmation by LC-QqQ-MS analysis for novel psychoactive substances. *Invited talk* presented at the 15th Annual Workshop in LC/MS/MS Applications in Environmental Analysis and Food Safety, Miami Beach, FL; May 29 - 31.

DeCaprio, A.P., Gilliland, R.A., Tavares, L., and Morrison, W. (2019). Development and validation of a blood protein modification assay for retrospective detection of abused drug exposure. *Invited talk presented at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Pittcon)*, Philadelphia, PA; March 17 - 21.

DeCaprio, A.P. and Gilliland, R.A. (2018). Analysis of drug-protein modifications in forensic toxicology. *Invited talk presented at the Pittsburgh Conference on*

Analytical Chemistry and Applied Spectroscopy (Pittcon), Orlando, FL; February 26 - March 1.

- **DeCaprio, A.P.**, Gilliland, R.A., and Moller, C. (2017). Novel blood protein modification assay for retrospective detection of drug exposure. *Invited talk presented at the American Academy of Forensic Sciences 69th Annual Meeting*, New Orleans, LA; February 14.
- **DeCaprio, A.P.**, Arroyo-Mora, L., Broomes, A-M., Gwak, S., Seither, J.Z., and Almirall, J.R. (2013). Development of comprehensive LC- and GC-MS/MS based screening/confirmatory methods for emerging drugs of abuse. *Invited talk presented at the Forensic and Clinical Toxicology Association (FACTA) 2013 Annual Meeting*; Sydney, Australia, December 2.
- **DeCaprio, A.P.** and Broomes, A.-M. (2013). LC/QQQ-MS screening for ~300 designer drugs and metabolites. *E-seminar presented in the RTI International Forensic Science Education Program*; February 27.
- **DeCaprio**, **A.P.** (2012). Development of novel approaches to the analysis of drugs of abuse and other xenobiotics of forensic toxicological relevance. *Invited seminar presented to the Department of Chemistry, University at Albany, SUNY;* December 13.
- **DeCaprio, A.P.**, Broomes, A.-M., Seither, J.Z., and Arroyo, L. (2012). Broadbased screening of bath salts, synthetic cannabinoids, and other designer drugs by LC-QQQ-MS and LC-QTOF-MS. *Invited talk presented at the 2012 Annual Meeting of the Northeast Association of Forensic Scientists*; Saratoga Springs, NY, November 14.
- Swortwood, M.J., Boland, D.M., and **DeCaprio, A.P.** (2012). Designer drugs analysis in the United States. *Invited talk presented at the Forensic and Clinical Toxicology Association 2012 Scientific Workshop*; Hobart, Tasmania, September 28.
- Swortwood, M.J. and **DeCaprio**, **A.P.** (2012). Targeted LC-QQQ MS screening of cathinone derivatives and other designer drugs in serum. *Forensics E-Seminar Series*, *Agilent Technologies*, *Inc.*; April 19.
- **DeCaprio, A.P.** (2010). Applications of protein adducts in mechanistic and analytical toxicology. *Invited seminar presented to the Department of Health Sciences, Albany College of Pharmacy and Health Sciences; October.*
- **DeCaprio, A.P.** (2009). New approaches to detection of long-term xenobiotic exposure. *Presented at "Meet the FIU Researchers" program, Florida International University; November.*
- **DeCaprio**, **A.P.** (2008). Biomarkers for persistent and non-persistent xenobiotics: Ultra-trace analysis vs. macromolecular adducts. *Invited seminar presented to the Department of Chemistry and Biochemistry, Florida International University; March.*

- **DeCaprio**, **A.P.** (2008). Polychlorinated biphenyls (PCBs) in indoor air and building sealants: Exposure Issues. *Webinar presented at Bond*, *Schoeneck*, *and King*, *LLP*, *Syracuse*, *NY*; *April 13*.
- **DeCaprio, A.P.** (2007). Biomonitoring and biomarkers in the assessment of human exposure to persistent pollutants. *Invited seminar presented to the School of Public Health and Health Professions, University of Florida; June.*
- **DeCaprio, A.P.** (2007). Biomonitoring and biomarkers: New applications in the health sciences. *Invited seminar presented to the Department of Health Sciences, Albany College of Pharmacy; November.*
- **DeCaprio**, **A.P.** (2006). Environmental impacts and exposure assessment for polychlorinated biphenyls (PCBs). *Invited seminar presented to the Department of Civil and Environmental Engineering, UMass Amherst; March.*
- **DeCaprio, A.P.**, Schmit, K.J., Schymura, M.J., Johnson, G.W., and Akwesasne Task Force on the Environment. (2006). Exposure-based determinants of PCB body burden. *Invited poster presented at the 2006 National Environmental Public Health Conference: Advancing Public Health, Atlanta, GA; December.*
- **DeCaprio**, **A.P.** (2005). Persistent organic pollutant (POP) body burden: Roles of exposure and genetics. *Invited talk presented at the Workshop on Genomics and Regulation, Arizona State University, Center for Law and Environment, Tempe, AZ*; January.
- **DeCaprio**, **A.P.** (2005). Serum PCB congener profiles: Clues to exposure and toxicokinetics. *Invited seminar presented at the IJC Science Advisory Board Workshop on Ecosystem Health's Conference: Chemical Exposure and Effects in the Great Lakes Today, Chicago, IL; March.*
- **DeCaprio**, **A.P.** (2004). Exposure biomarkers in epidemiology: The case of PCB congener profiles. *Invited seminar presented at University of South Carolina*, *Department of Epidemiology, Columbia*, *SC*; April.
- **DeCaprio**, **A.P.** (2004). Biomonitoring and biomarkers in the assessment of human exposure to persistent pollutants. *Invited seminar presented at University of Massachusetts at Amherst, School of Public Health and Health Sciences, Amherst, MA*; April.
- **DeCaprio**, **A.P.** (2004). Human exposure assessment for persistent and non-persistent pollutants: Recent progress and new directions. *Invited seminar presented at Boston University, School of Public Health, Boston, MA*; May.
- **DeCaprio**, **A.P.** (2001). Human exposure assessment for persistent and non-persistent pollutants: Recent progress and new directions. *Invited seminar presented at the Wadsworth Center for Laboratories and Research*, NYSDOH, Albany, NY; December.
- DeCaprio, A.P. (2001). Biomarkers in toxicological assessment and drug

development. *Invited seminar presented at the Charles River Laboratories, Worcester, MA*; December.

- **DeCaprio, A.P.** (1998). Biomarkers in human health risk assessment: Practical use and potential for misuse. *ASTM Eighth Symposium on Environmental Toxicology and Risk Assessment: Standardization of Biomarkers for Endocrine Disruption and Risk Assessment.* Atlanta, GA; April.
- **DeCaprio, A.P.** (1998). Biomarkers of PCB exposure in man. *Invited seminar presented at the Division of Laboratory Sciences, National Center for Environmental Health, CDC*, April.
- **DeCaprio, A.P.** (1997). Basic toxicology for law professionals. *Invited seminar presented at Nixon, Hargrave, Devans & Doyle*; Rochester, NY; January.
- **DeCaprio**, **A.P.** (1997). Applied research and causation analysis in toxic tort and environmental litigation. *Invited seminar presented at Nixon*, *Hargrave*, *Devans* & *Doyle*; Rochester, NY; January.
- **DeCaprio, A.P.** and Barber, A.J. (1997). Chemical considerations in risk-based Brownfields remediation. *Northeast Regional Meeting, American Chemical Society*. Saratoga Springs, NY; June.
- **DeCaprio, A.P.** (1997). Risk assessment practices and policy: From old to new. *The Business Council of New York State*; 1997 Annual Industry-Environment Conference. Saratoga Springs, NY; October.
- **DeCaprio, A.P.** (1996). The technical team member: Risk-based approaches to Brownfields cleanups. *Presented at McLaren/Hart, Inc. half-day seminar "A Team Approach for Brownfields"*, Albany, NY; November.
- **DeCaprio**, **A.P.** (1994). Biomarkers of xenobiotic exposure in man. *Invited* seminar presented at Exxon Biomedical Sciences, East Millstone, NJ, June.
- **DeCaprio**, **A.P.** (1991). Neurofilament protein binding of reactive chemical neurotoxicants. *Invited seminar presented at the Department of Chemistry, University at Albany*, October.
- **DeCaprio, A.P.** (1986). n-Hexane neurotoxicity: A mechanism involving pyrrole adduct formation in axonal cytoskeletal protein. *Mid-Atlantic Meeting, American Chemical Society*, Baltimore, MD; September.
- **DeCaprio, A.P.** (1985). Hexane neuropathy: Studies in experimental animals and man. *British Toxicology Society Autumn Meeting*, University of Kent, Canterbury, U.K.; September 25-27.
- Kaminsky, L.S., **DeCaprio**, **A.P.**, Gierthy, J.F., Silkworth, J.B., and Tumasonis, C. (1985). The role of environmental matrices and experimental vehicles in chlorinated dibenzodioxin and dibenzofuran toxicity. *Proceedings of the 4th International Symposium on Chlorinated Dioxins and Related Compounds*,

Ottawa, Canada, Oct. 16-18, 1984.

DeCaprio, A.P. (1984). Molecular mechanisms of n-hexane neurotoxicity. In: *Proceedings of the 14th Conference on Environmental Toxicology*, Nov. 15-17, 1983. Air Force Aerospace Medical Research Laboratory, Dayton, OH; AFAMRL Publication TR-83-099.

DeCaprio, A.P. (1984). Neuronal protein binding of occupational neurotoxicants. *Invited seminar presented at the Department of Pharmacology and Toxicology, Albany Medical College*, October.

DeCaprio, A.P. (1982). Molecular mechanisms of hexane neurotoxicity. *Invited* seminar presented at the US Army Institute for Chemical Defense, Aberdeen Proving Grounds, MD, April.

Research Abstracts Presented at Conferences:

Guo, J., Turesky, R.J., Tarifa, A., **DeCaprio, A.P.**, Cooke, M.S., Walmsley, S.J., and Villalta, P.W. (2020). Development of DNA adductome mass spectral database. *68th ASMS Conference on Mass Spectrometry and Allied Topics*, Houston, TX; May 31 - June 4.

Aijala, J.C. and **DeCaprio**, **A.P.** (2019) Systematic comparison of decontamination parameters associated with the toxicological analysis of human head hair. *Annual Meeting of the Society of Forensic Toxicologists*, San Antonio, TX; October 13-18.

Aijala, J.C. and **DeCaprio, A.P.** (2019). Assessing pre-treatment parameters in forensic hair analysis by statistical design of experiments. 8th Annual Florida Forensic Science Symposium, Miami, FL, May 1-2.

Chenevert, J.M. and **DeCaprio**, **A.P.** (2019). Assessing external decontamination and extraction parameters by statistical design of experiments for forensic hair analysis. *Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Pittcon)*, Philadelphia, PA; March 17-21.

Mulet, C.T., Tarifa, A., and **DeCaprio, A.P.** (2019). A comprehensive analysis of synthetic cannabinoids and metabolites in oral fluid by online solid phase extraction and liquid chromatography/triple quadruple/mass spectrometry. *American Academy of Forensic Sciences 71th Annual Meeting, Baltimore, MD; February 17-23.*

Chenevert, J.M. and **DeCaprio**, **A.P.** (2019). Application of statistical design of experiments (DoE) to assess external decontamination methods in forensic hair analysis. *American Academy of Forensic Sciences* 71th Annual Meeting, Baltimore, MD; February 17-23.

Kimble, A.N. and **DeCaprio, A.P.** (2019). A comparison of multiple extraction/purification methods for novel psychoactive substances (NPS) from

biological matrices. *American Academy of Forensic Sciences 71th Annual Meeting, Baltimore*, MD; February 18-23.

Eckberg, M., Arroyo-Mora, L., and **DeCaprio, A.P.** (2018). The development of a high resolution mass spectrometry (HRMS) library and method validation for screening and confirmation of 800+ novel psychoactive substances by liquid chromatography/quadrupole time-of-flight/mass spectrometry (LC-QTOF-MS). (Platform presentation). *American Academy of Forensic Sciences 70th Annual Meeting*, Seattle, WA; February 19-23.

Kimble, A.N. and **DeCaprio**, **A.P.** (2018). QuEChERS extraction of novel psychoactive substances from biological matrices. *American Academy of Forensic Sciences* 70th *Annual Meeting*, Seattle, WA; February 19-23.

Kimble, A.N. and **DeCaprio, A.P.** (2018). Online solid phase extraction of novel psychoactive substances from biological matrices. *Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Pittcon)*, Orlando, FL; February 26 - March 1.

Gilliland, R.A. and **DeCaprio, A.P.** (2018). Analysis and characterization of in vitro glutathione adducts formed with drugs of abuse". *Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Pittcon)*, Orlando, FL; February 26 - March 1.

Gilliland, R.A. and **DeCaprio, A.P.** (2018). Mass spectrometric approach to the analysis of covalent modifications of blood proteins by drugs of abuse. *American Academy of Forensic Sciences* 70th Annual Meeting, Seattle, WA; February 19-23.

- Cui, D., Tarifa, A., **DeCaprio, A.**, and O'Shea, K. (2018). Fundamental studies of ultrasound induced degradation of a popular antihistamine, cetirizine. *255th ACS National Meeting & Exposition*, New Orleans, LA; March 18-22, 2018.
- Cui, D., Mebel, A.M., Arroyo-Mora, L.E., Zhao, C., **DeCaprio, A.**, and O'Shea, K. (2017). Fundamental study of ultrasound induced degradation of a popular antihistamine, diphenhydramine (DPH), 23rd International Conference on Advanced Oxidation Technologies for Treatment of Water, Air and Soil, Clearwater Beach, FL; November 13-16, 2017.
- Kimble, A.N., Arroyo-Mora, L., and **DeCaprio, A.P.** (2017). Method validation using multiple compound mixtures for screening/confirmation of 800+ novel psychoactive substances by LC-QqQ-MS (platform presentation). *American Academy of Forensic Sciences 69th Annual Meeting*, New Orleans, LA; February 13-18.

Eckberg, M., Arroyo-Mora, L., Stoll, D.R., and **DeCaprio, A.P.** (2017). Separation of chemically similar and isobaric novel psychoactive substances using two-dimensional liquid chromatography. *American Academy of Forensic Sciences* 69th Annual Meeting, New Orleans, LA; February 13-18.

Gilliland, R.A., Moller, C., and **DeCaprio, A.P.** (2017). LC-MS/MS based analysis of in vitro covalent modifications of glutathione and peptide thiols by drugs of abuse. *American Academy of Forensic Sciences 69th Annual Meeting*, New Orleans, LA; February 13-18.

Kimble, A.N., Arroyo, L., and **DeCaprio, A.P.** (2016). Triggered MRM database for the comprehensive detection of novel psychoactive substances by LC-QqQ-MS. *5th Annual IFRI Forensic Science Symposium,* Miami, FL; March 15-16.

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